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Between Culture and Biology

Synchronisation prétendue des cycles menstruels des jeunes filles suri (Éthiopie méridionale). Entre culture et biologie

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Jon Abbink

Menstrual Synchrony Claims among Suri Girls (Southwest Ethiopia)

Between Culture and Biology*

Sexual Culture in Debates on Human Reproduction and Demographic Development

In this study on the sexual culture of the Suri people, a South Ethiopian agro-pastoral society, I look at how Suri girls use "menstrual synchrony" claims to shape their sexual and reproductive agency, balancing between bio-physiological and socio-cultural factors. I place this account within the globally emerging discourse on sexual and reproductive rights in developing countries.

The Ethiopian case described here shows a local sexual culture that was developed on the basis of correct physiological knowledge of the facts of reproduction and female anatomy, and optimally geared to the conditions and the (limited) possibilities that people have to deal with sexual and reproductive health challenges. Ethiopia, a country with a growing but still underdeveloped educational infrastructure and a very embryonic population policy, has a high average fertility rate of 5.4 per woman and an annual population growth of 2.6 to 3%, with widespread patterns of early (teen) marriage and early childbirth. Maternal mortality figures are high, and "[...] an estimated 36% of women of reproductive age have an unmet need for family planning" (All Party Parliamentary Group 2007: 60). From fieldwork in southern Ethiopia in recent years I estimate that in some areas this figure is much higher: towards 50-60%, especially among rural women.

* A first outline of this paper was presented at the 6th European Conference of African Studies in Lisbon in June 2013. I thank the participants of the Panel on Sexual Culture in Africa for their great questions and comments. A second version was presented at the Cairns Institute, James Cook University, Cairns, Australia, on 5 November 2013. I am grateful to the Cairns Institute, in particular to Professors Komla Tsey, Alexandra Aikhenwald and Robert Dixon, for their hospitality and excellent feedback. I also thank Dr. Azeb Amha (African Studies Centre, Leiden) for her incisive comments.

Uncontrolled population growth is a real but largely unaddressed problem, also felt by women in rural Ethiopia, primarily concerned about their children's health and survival. While their desire to have a good number of children is strong, they often feel that their autonomy and choice as to number and birth spacing of kids are constrained by local norms and social or (growing) religious pressure.

Demographic growth patterns and their local characteristics and distribution can be better understood if one links an understanding of fertility patterns with that of sexual culture—as a local repertoire of socio-cultural norms, knowledge and practices of sex and reproduction in a community. Certain aspects of sexual culture, like traditional circumcision, "widow inheritance" and female sexual subservience in general, not only have an effect on health and HIV-AIDS ratios (Integrated regional information network [IRIN] 2003) but also on population growth rates and women's status and agency. The hypothesis of menstrual synchrony can be seen in a wider perspective of demographic and sexual culture studies (Donnan & Magowan 2010)[1], but were as yet little studied from a combined anthropological-biological viewpoint. The debates on the relation between socio-cultural and "biological" factors is complex and has a long history in anthropology, not to be repeated here[2], but my general claim in this paper is that in the domain of sexual-reproductive matters they strongly interact, and specifically that socio-cultural value preferences can have a shaping impact on those biological-physiological features—obviously, within limits.

The Suri people discussed here are an agro-pastoral society in southern Ethiopia (Abbink 2009). Suri women, while in many respects dependent on males—husbands, brothers, or fathers—are well-versed in sexual matters, and independent in their control of fertility and sex. They know the days in the cycle when they are fertile or can have sex without getting pregnant, they rather than the men tend to initiate sex, and they are never "given in marriage" without their consent. In this they differ significantly from most other Ethiopian women.

One of the features of Suri female sexual-reproductive life is the frequent, and fascinating, claim by young girls that they menstruate together, regulated by, or oriented toward, the cycle of the moon, as they say. Surprising as this claim appeared to me when in the field, this idea of menstrual synchrony—women closely living together developing a synchronization of their individual monthly menstrual periods—is of course not new. But its existence is still subject of scholarly discussion, and the scientific literature has not yet given conclusive answers. No decisive refutation or corroboration was yet produced. Originally proposed by Martha McClintock (1971) in her paper on American college girls sharing a dormitory, there has been a spate of studies disputing or supporting the theory (Yang & Schank 2006;

1. See also T. BUCKLEY and A. GOTTLIEB (1988).
2. See, *e.g.,* P. J. RICHERSON & R. BOYD (2005).

Harris & Vitzthum 2013). Much of the evidence brought is based on the claim that human olfactory media, or pheromones—secreted airborne substances, chemical scent-like transmitters from one human to another—play a causative role in shaping menstrual or ovulatory timing (McClintock 1999).

Themes in Menstrual Synchrony Studies: Biology or Culture?

Menstrual synchrony may be defined specifically as the progressively shift in time of women's menstrual onsets and cycles closer to a shared, synchronous pattern[3]. It could perhaps also be termed menstrual concordance (Strassmann 1997: 126), in view of the empirically never perfect fit of menstrual periods in the groups of women observed. It is often suggested in the literature that such menstrual synchrony works to produce ovulatory synchrony (Weller & Weller 1997: 143).

Menstrual synchronization is claimed to occur in specific settings and among certain groups of women. Some research work published since McClintock's paper (1971) gives tantalizing indications of its existence (Weller & Weller 1980, 1997; Quadagno *et al.* 1981; Arden, Dye & Walker 1999; Jahanfar *et al.* 2007)[4] although the synchrony often seems to be temporary, and conditional upon highly specific factors. But a majority of studies does not confirm it (Ziomkiewicz 2006: 430; Harris & Vitzthum 2013: 238). Evidence from research on non-human primates is neither very supportive (Harris & Vitzthum 2013: 238), suggesting that any "adaptive significance" is absent. So there are two camps, arguing for and against. The positions differ especially on the very existence of menstrual synchrony beyond chance factors, on how it works (or would work), and what would explain it. Key methodological issues feature repeatedly in the debate (Wilson 1992; Schank 2002, 2004, 2006; Ziomkiewicz 2006: 427). The presence and influence of human pheromones was indeed advanced as a cause already in McClintock's article (1971), but to date the existence and causal role of these "airborne chemical substances" in humans has not been decisively demonstrated (Strassmann 1999; Hays 2003; Schank 2006; Yang & Schank 2006)[5]. If they exist (Jahanfar *et al.* 2007; Mostafa *et al.* 2012: 5), they would, I claim, also depend on certain social-environmental and perhaps cultural factors to be operative. In the literature so far, no satisfactory explanation of tendencies toward synchronization has been offered that

3. See also C. GRAHAM (1991: 293).
4. See also TRELOAR *ET AL.*'s pioneering paper (1967).
5. However, in 2007 researchers found the molecular receptor responsible for sensing *androstenone,* a compound that might function as a pheromone in humans (LEDFORD 2007). Remarkably, in another species, goats (sorry for the transition), the existence of ovulation-stimulating scents (here a "primer pheromone") was demonstrated by K. MURATA and his team (2014).

assesses both the possible chemical-pheromonal influences and the socio-cultural factors relating to group formation and values that might interactively produce patterns of menstrual synchronization. These patterns are in any case highly variable and subject to change.

An additional problem is how to factor in the impact of menstrual cycle variability: length of individual women's cycles can range from 24 days to 32 or more days, and varies even per woman. A number of studies (Arden & Dye 1998; Schank 2000, 2002) has seen this issue as refuting any likelihood of menstrual synchrony emerging beyong chance, but others suggested (Graham 2002; Weller & Weller 2002) that this problem can be avoided by proper methods[6].

With this awareness of the contested state of menstrual synchrony, I here specifically examine the claims of unmarried Suri girls—amongst whom I studied the phenomenon—on menstrual synchronization as such, and ask what they mean when they say that they more or less simultaneously have their period and then point to the moon (cycle) as "proof"? In general, while the biological "facts" should be straightened out, it is primarily by placing the alleged phenomenon in a wider context of social use and sexual-reproductive rhetoric in a specific social group that we may come to better understand it. I was initially sceptical of the frequency, or even the existence, of menstrual synchrony. One cannot prima facie or categorically exclude its occurrence, but we must call attention to these very specific conditions under which it may (temporarily) occur. If indications are that it is something real (Klebanoff & Keyser 1996; Weller & Weller 1997, 2002; Stern & McClintock 1998; Arden, Dye & Walker 1999; Jahanfar *et al.* 2007), then we might look to social-environmental influences rather than pheromones as such that primarily would explain it (Little *et al.* 1989). In this study I claim that while menstrual synchrony—in terms of a full overlap of periods, progressively over time—is unlikely, a tendency to synchronize periods, is in some conditions highly likely to occur and can be demonstrated. Ultimately, the interactional perspective is needed on how biological and socio-cultural phenomena combine to establish a possible synchronization pattern. This paper is a first step towards this. Another aim here is to present a unique cultural system that existed and is still maintained as much as possible.

Data for this study among the Suri people are qualitative, and were gathered in the context of longitudinal anthropological research on internal politics and gender relations in Suri society. They come from the observation and questioning of a small sample of 29 Suri girls in two villages,

6. Since 2006, research on menstrual synchrony has notably declined, perhaps due to a lack of empirical confirmations of the phenomenon. See A. HARRIS and V. VITZTHUM's survey (2013), mentioning the last contributions as dating from 2006.

gathered in 1991-1992, 1999, 2000, and with follow-up interviews in 2011, which confirmed that Suri girls kept following custom, despite their culture being under pressure (see below).

The Suri Agro-pastoralists in Southwest Ethiopia and their Gender Relations

The Suri of southwest Ethiopia are a patrilineal, polygynous society of ca. 34 thousand people, consisting of two subgroups, the Tirmaga and the Chai. They live dispersed in small villages are a largely self-sufficient society, living mostly on their own agrarian produce, on cattle herding, and have little external trade except the sale of artisanally won alluvial gold. Suri do not depend on outside services and frequent only a handful of primary schools. They have their own native medical skills, especially wound healing, bone-setting and "surgery". However, they are vulnerable to infectious diseases. A problem is high child mortality due to a variety of common infections, water-borne parasites and amoebiasis. Sometimes there is also food scarcity. In the mid-1980s, after failing rains and little or no external aid, they suffered a famine, and smaller episodes of food scarcity occurred throughout the 1990s and early 2000s. With neighbouring ethnic groups like the Nyangatom, Anywa, Dizi, and village highlanders there are regular violent clashes, partly resulting from "resource competition" and the rapid introduction of automatic rifles since the late 1980s. Hundreds of people were killed in a 20-year period until ca. 2007, when a truce was negotiated. Violence has however resurged since, and has also affected Suri intra-group relations. As both a result and a "cause" of internal social and gender tensions over the past two decades, the use and abuse of alcohol has notably increased (Yetmgeta 2003: 23), including the imported hard liquor *(araqé)* from traders from the highland areas. In the villages, women usually predominate because of the long periods of absence of young men due to herding activities.

The post-1991 Ethiopian "ethno-federal" government issued a Pastoralist Education Strategy in 2009, with an ambitious programme allegedly to combat their "historic marginalization" but aimed at politically and economically incorporating them. This document says that the pastoralists "[...] have a deep-rooted backward mind-set and harmful traditional practices" (Ministry of Education 2009: 4), and also that they have "cultural barriers" to accepting education and modern life. The Suri are (agro-)pastoralists and thus are seen by the state as "lacking" everything. Among state representatives there is little interest let alone respect for any positive knowledge the Suri might have, and least of all that of a medical or reproductive-sexual nature.

Recent dramatic changes in Suri society (not to be described here), due to massive state intervention *via* land appropriation and villagization, as

well as persistent conflicts with the neighbouring groups stimulated by state meddling, have a notable negative effect on Suri family organization, food security, and their sexual and reproductive culture.

Suri Sexual Culture

I define sexual culture here as the culturally rooted repertoire of ideas, representations and practices around sex that are dominant, if not normative, in a defined social or ethnic group, and characterized by being shared, relatively durable, and transmitted to younger generations. It is a pattern of recognizable practices and (often unconscious) norms and values around sexual behaviour. Suri sexual culture is geared towards reproduction—getting children is normative for every female—but also towards physical enjoyment and pleasure, notably among adolescents. There is no custom of prohibition of sex among adolescent unmarried Suri. But there are only few teenage marriages or teenage mothers, suggesting careful precautionary measures in sex. Despite a male, patrilineal bias, Suri sexual culture is characterized by the independence and agency of women, who have adequate knowledge of sexual physiology and the reproductive cycle. This knowledge, transmitted by mothers and age peers, has been used in a quite self-conscious manner by young women in maintaining their own (sexual) rights and fertility. While, as noted, Suri have no norms of premarital virginity or rules prohibiting premarital sex (they even seem to encourage it), children should be begotten only in marriage. In contrast to most other Ethiopian peoples or ethnic groups, neither practice female and male circumcision. Pre-marital pregnancy is taboo, and adolescent girls take great pains to avoid it. In the recent past, the pregnant unmarried girl was shamed and forbidden from wearing the clay female lip plate *(d'éeb'é)*. When a girl is made pregnant, the man is usually appealed to by relatives and forced to marry her and/or to pay substantial bride wealth compensation to her family.

Control of sex and pregnancy prevention is the responsibility of women. Their method is the rhythm technique, practised with great care. There are few if any traditional contraceptives. Suri girls marry at a comparatively late age (20-23)[7]. They even express their reluctance to get into a marriage, but the desire to live independently and have children overrides this when they reach their early twenties.

Married women carefully practice birth spacing, with a minimum of two-three years in between, due to the demands of the household (especially when she is the single wife), and to face the results of conflict and other calamities that endanger their life and health. Frequent migration and flight

7. This is ca. seven years later than the *average* Ethiopian woman.

also contribute to this pattern. After birth there is post-partum sexual abstinence for the women of a year or more. Men keep on having occasional sex with their other wives (if they have them), or with other females. Mothers give prolonged breast feeding of up to two years on average. Among Suri women there is a strong wish to have children (Yetmgeta *et al.* 2004: 172), and the status of mother is highly regarded, also among children. The average fertility among Suri in 1991-2000 was 6.9 children per married woman (field data 1992-2000). Mortality, however, is high; all mothers see one of more of their children die, often half of them.

Another detail of Suri sexual relations is that traditionally rape was unknown; it neither occurred domestically nor during armed raids on neighbouring groups, like the Nyangatom or Dizi. But in recent years—since the mid-1990s—it has emerged in the context of aggravated inter-ethnic conflict and due to internal disarray and an authority crisis in Suri society. Also, sexual partners outside the Suri group were (and are) very rare, although there was some incorporation of young women from the Nyangatom and Dizi ethnic groups who married a Suri man. Since the late 1990s, government soldiers from elsewhere were stationed in their area, and several tried to entice Suri girls into sex or offered to pay them for it. In the 2000s a growing number of cases of coerced sex by these soldiers is occurring. Moreover, since the late 1990s Suri men occasionally visited prostitutes in the frontier towns where they sell gold (*e.g.,* in Dima, on the border with the Anywa people). This led to several cases of HIV-AIDS infection in the early 2000s (called by Suri the "baboon disease"), but when this became known, a gradual reduction of such external sexual contacts occurred.

Suri sexual culture traditionally shows a strong regulation of sex and fertility by young women. It is they who usually initiate the sexual encounter, and send messages *via* someone to a male of their liking. Married women also communicate their desire for sex to their husband *via* a specific way of offering him food. When a mother after having given birth and nursed a child is ready to restart sex with her husband after the *post-partum* period, she sends a message—a rope with knots indicating days—to him that she is willing.

Indeed, the way Suri girls keep track of their menstrual periods is by counting the days on the basis of small knotted and beaded ropes, with each knot or bead representing a day, and the number and kinds of knots and beads signify the stages in the cycle, *e.g.,* the "unsafe" period, the start of the "free period" and the impending menses. They untie a knot on every day that passes (see below). They carry these ropes under their leather skirts and redo them every month on the first day of menstrual bleeding. The knots are also used for setting appointments, *e.g.,* with boys.

SURI GIRL'S GROUP

Courtesy of Trevor Cole <http://trevcoleimages.wordpress.com/about/>.

Suri Menstrual Synchrony?

Menstruation in a pre-industrial society, like the Suri, is not as frequent as in modern-industrial/consumer societies, where the number of pregnancies and babies born is much more limited. Back in 1981 Barbara Harrell, in an interesting survey article, noted that in pre-industrial societies women, after an early marriage, during a few decades were often either lactating a baby or pregnant, and thus relatively unfamiliar with frequent menstruation (Harrell 1981: 803, 817). As the Suri use few contraceptives (no industrially produced ones) and follow natural cues in the fertility cycle, they might be said to be a "natural fertility" population, coined by Henry (1961: 81), a concept is used in the literature (Strassmann 1997: 123 on the Dogon) to indicate a "non-contracepting" group. But Suri and related people with little or no access to modern medicine use rhythm methods and natural products (ethno-medicine) found in their environment. So, in a way, the concept of a "natural fertility" population is misleading for the Suri: although infrequently, they do use means to influence the "natural" cycle and fertility with contraceptive aims. Synchronizing menstrual periods can be seen as one method.

The Suri menstruation experience, which is called *nyèba* (being "in blood"), in itself is especially important for adolescent, unmarried Suri girls aged ca. 13 to 22 years. As said, they do not marry young. Married Suri

women, due to very frequent pregnancies and lactational amenorrhea[8] leading to reduced fertility, are much less concerned with menstruation and the need to regulate it, and among them no "synchrony" is found, nor claimed[9]. Obviously, there is no synchronization with their daughters' periods either, apart from a chance one.

Among adolescent Suri girls, however, who live together in physically closely-knit groups, the evidence indicates that synchronization pressure builds up. They observe each other's menstrual periods—notably the youngest girls that join the group later—and note the timing of "safe periods" for having sex without pregnancy risk, one of the activities in which they can still indulge relatively freely before marrying. In fact, I claim that this desire is the main motive behind synchronizing. In that sense, menstrual synchrony is not an "adaptive trait" that evolved to enhance reproductive success (Harris & Vitzthum 2013: 238) and the theoretical argument that it should is irrelevant.

The Study Population and the Data

The sample for this study was limited to 29 non-literate women in the two Suri villages of Makara and Byeeliya (in Surma District, SW Ethiopia), which were repeatedly observed and interviewed during a six-seven month period in 1992[10], with additional questioning of a number of them years later in 1999, and repeated research of a smaller number of 9 girls in 2000. Their ages were from an (estimated) 16 to 22 years, and the group consisted of local village girls (both sisters and friends), all unmarried and without children. The girls in this age range are called in Suri *sèd'i,* a recognized age category of adolescent girls with their secondary sexual characteristics developed but not yet ready for marriage, and most of them not yet having inserted the typical female lip plate[11]. A formal "testing procedure"—as so often done in menstrual synchrony research among college dorm girls—was obviously impossible.

8. According to my observations, among Suri women this period of (initial) breastfeeding-induced interruption of menstruation and reduced sexual availability is on average 18-20 months. While menses may of course return earlier, this interruption contributes to birth-spacing, which takes at least two years and is a strategy consciously aimed at by Suri mothers.
9. B. HARRELL (1981: 803) estimated that "[...] menstrual months occupy less than one-fourth of a preindustrial woman's reproductive span". See also B. STRASSMANN (1997: 125) on the Dogon.
10. I gratefully acknowledge the essential help of my assistant Barhoyne Wolesiba and his sister during the fieldwork.
11. This Suri custom of inserting a lip plate in the lower lip marks the young (engaged) woman on the verge of marrying; the plate is kept in throughout married life, especially in the public domain: *e.g.,* when the woman serves her husband a meal in public. The girls that have inserted a lip plate are collectively called *d'ogolia.*

Data thus were primarily qualitative (Klebanoff & Keyser 1996), but based on girls self-reporting, on weekly recalls. Reconstruction of (qualitative) period/cycle length was done on the basis of this. The non-literacy of the subject group of course complicated things. The information from the girls was augmented with some "anecdotal evidence" from some of their (male) friends and from their mothers[12]. The information was difficult to get and is incomplete, as open and explicit talk about sex is difficult in Suri: it should not occur in public settings, but only in face-to-face private ones. This is related to notions of propriety, but does not in any way mean that Suri are shy about sex.

Girls when starting menses enter a new phase of life, preparing to leave the household compound of the mother. They join a girls' age group for collective work, socializing, etc. A pattern of intense, all-girl common activities starts, consisting of: working in the field of one of them[13], common socializing, moving in groups, often joint sleeping in a hut, making and decorating new clothes (from animal skins), joint washing at the river, going on joint trips (*e.g.,* visiting markets and boys' lowland cattle camps), joint visits to the Suri ceremonial stick duelling contests *(ságine)*[14], and joint monthly moon night dancing[15]. Thus, a pattern of interdependency and "affiliative attachment" (Graham 1991: 296) emerges. This significant exposure to each other—more than to any others—also has inevitable olfactory aspects: skin odours and sweat are "exchanged" inadvertently. This effect is likely stronger among Suri girls than among any of the usual college girl groups studied so often in menstrual synchrony research (McClintock 1971; Cutler 1980, 1987; Little *et al.* 1989; Klebanoff & Keyser 1996; Ziomkiewicz 2006). In experiments with human axillary compounds (from one female in the group, applied to others) and their effect on ovarian function, repeated exposure to female odor has been claimed to play a role in menstrual cycle patterning, specifically in the timing of menstrual onset (Russell *et al.* 1980; Stern & McClintock 1998; Whitten 1999 *vs*. McClintock 1999). While in this research on college girls there was a more controlled experimental setting and answers on the cycle were self-reported in written form, in the natural setting of intense sociality and co-activity of Suri girls this factor can be recognized as well, and might even be stronger. S. Jahanfar *et al.* (2007: 117-118) suggested that lower personal hygiene scores within

12. It was impossible to gather quantitative data, partly due to the lack of literacy skills of the girls interviewed (no questionnaires, no diaries) and the small-scale sample. A quantitative study would be very useful but requires a multidisciplinary team and ideally a research period of one year.
13. Young girls start cultivating their own crops for sale at markets, and with the proceeds they buy goats, thus building up capital. Since 6-7 years they also have joined gold panning activities, always working in groups.
14. These are major events bringing together hundreds of Suri (ABBINK 1999).
15. The most recent evidence of some effect of the (full) moon on human behaviour comes from C. CAJOCHEN *ET AL.* (2013).

groups (comparatively speaking, also evident in Suri life) may have contributed to the more frequent exchange of body odours, sweat and scents, thus contributing to, although not "explaining", synchronization.

For menstrual cycle counting the Suri girls also use the rope knots, referred to above: every girl ties five or six knots on the first day of menses (first bleeding), untying one knot each following day. After her menstruation stops, usually with a margin of one extra day, she adds ten or eleven more knots, again untying one knot each subsequent day[16]. When the knots are all untied, on a day that corresponds to the 14th or 15th day in the Suri moon calendar, she can start preparing for sex without fear of getting pregnant until the onset of the new menses. This day is called *shòdigái,* corresponding to the day before full moon and/or full moon. If a sexual encounter is planned it is usually a few days after this 15th day. This sequence seems to be the preferred one and is actively pursued in the girls' groups. There is thus a link made with the moon month[17], and this is the reason why many girls often "explain" their menstrual synchrony by pointing to the moon[18].

Hence, an "ideal pattern" develops in that the day of full moon *(shòdigái)* should mark the end of the unsafe period of 8-9 days (*i.e.,* the follicular phase) after the 5 or 6-day bleeding has stopped. The full moon, as it were, announces the impending "free period" for sexual activity, and this is confirmed during the nightly girls' dances in the moonlight. Boys who are present in the village join in as well (but many of them are usually in the lowland cattle camps). So most girls intending to have sex plan it after the day one or two days (ideally) after full moon, just to be on the safe side. This day is called *múgur hoyne*. Then after two weeks (*i.e.,* the *múgur* 1-14 period), on the day called *Balai 1,* the menses come again. This also implies that Suri girls expect, or desire to have reached, a concordance in ovulation with the others.

It should, finally, be noted that Suri females do not value menstruation negatively: for them it is a sure sign of their fertility and not a source of embarrassment[19]. But they will usually not prepare or serve food to their household members on these days.

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16. Incidentally, a woman doesn't drink milk for four days after her menstrual cycle. Meaning is unknown.
17. In Suri moon-month counting there is no iron-clad time-reckoning, as dates vary and the day-counting is necessarily out of sync with the 29.5-day lunar rotation cycle. Some leeway in the counting is maintained (TURTON & RUGGLES 1978) on the quite similar Mursi calendar.
18. (Suri: *tági*). In fact, the measuring points were counting the knots set on the first day after the menses by each girl, and doing the same on the day after ovulation (*i.e.,* day 15 or 16 after start of the menses).
19. The rate of infertility among Suri women is very low. People could only mention a few women that did not have children. Childless women have low status and are economically in dire straits. After their marriage, women will do anything to get pregnant. If pregnancy takes too long, they consult a healer or go to visit local mineral springs to drink and bathe in the water. There is also adoption.

An overview of the two study group data (1992) shows the following:
– In both villages (Makara and Byeeliya) there were at any time informal, solidary girls' age groups that joined for many activities during day and night, as described above. After ca. age 15, girls of a particular locality simply spend most of their time, day and often night, with other girls. In each village, depending on size, several groups exist (often the group of the smaller village, Byeeliya, came to Makara to join in moon night dancing).
– The age range of the girls surveyed in February 1992 was 15 to 22 years (estimated). New members joining the groups at one point in time had a menstruation onset different from the majority of girls in the group, judging from their starting the knots marking the onset of the period on different days[20]. Girls at that age when entering are already instructed by their mothers about the handling of the monthly period, hygiene, the rope knot system, and the meaning of bleeding and other phases of the cycle, and are told not to prepare and offer food to others during the days of bleeding.
– After a new girl—informally, on the invitation of a friend or a sister or a neighbour or just when she has reached the right age—joins, she notes that the others have a pattern of common activities and a pattern of more or less synchronizing menstruation. She (un)consciously tries to fit into this pattern. She also gets interested in relations with boys.
– In the first village (Makara) a group of 19 girls was followed intermittently for 5 months during 1992. It was found that cycle length of 15 girls already in the group was the roughly same (29 days), with only three with a shorter or longer cycle (two days less, one day more). In the majority (16 girls), the onset and cessation of bleeding more or less coincided (sometimes a one-two day difference). Three girls that had last joined the activities of the group during my stay in the field initially started their period at least four or five days later than the average. When I asked them again four months later—on the basis of monitoring the knot counting—, they said they had "aligned their bleeding to the moon", *i.e.* had somehow shifted the onset of menses more towards the group average, meaning in these three cases a change "forward" (probably shortened) of three to four days.
– For the smaller group in the village of Byeeliya (which was at about 1.5 km distance from Makara) my information is less accurate. But the statements of the girls in this group during two survey moments in 1992 also suggested synchronization. Two newcomers said (with reference to the knot counting) after some months that they had tried to be more in line with the others and had undergone change in their cycle rhythm. One girl in this group had reduced her long cycle of 31 days to one of 29, as she told us that she over time "needed less knots to untie in the rope" she

20. In general it is assumed that the onsets of menstruation of different women will be seven days apart, although the maximum difference theoretically possible is of course 14 days (STRASSMAN 1999: 579).

carried. Again it seemed that the girls aimed to be free for sexual intercourse in the *múgur* period after full moon.

– The initially diverging date of menses of girls new in the group (in February 1992) was thus reduced and came nearer to the average timing of the group after four months/periods (surveyed in late June 1992). As said, the periods also got more regular: long ones (of 31+ days) reduced; short ones (*e.g.* 26-27 days) lengthened toward the average of 29 or 30 days. An adjustment towards synchronization after one month of group membership, as reported by some researchers (Little *et al.* 1989: 55) was not found.

– The two study groups showed some pattern of synchronizing, supporting the claims of the girls, but not a complete synchronization of their periods in the sense that all girls start menses on the same day and go through an identical cycle. Furthermore, the impact of actual sexual intercourse of the girls on their cycle could not be measured (Obviously, no information could be obtained). It has been alleged (Weller & Weller 1997: 148) that this may impact on cycle duration[21].

Menstrual Synchrony in the Strategy of Young Females: Sexual and Reproductive Knowledge and its Manipulation

As seen from the data, there seemed to be strong indications of a gradual synchronizing of the Suri girls' cycles. The newcomers "adapted" to the cycle pattern prevalent the group and did not keep or "impose" their own—which sounds logical because newcomers must fit the group majority pattern. This happens usually after four cycles: those with a short cycle lengthen it, those with a long one shorten it. As suggested by Cutler (*et al.* 1980, 1987), the moon cycle and the average menstrual cycle coincide, being both 29.5 days. This was emphatically confirmed by data on the Suri girls in the two villages, again implying, as we saw above, that they model their cycle on the moon pattern ("phase-locking")—even if these never completely overlap. But they seem to refer to the moon as a timing indicator: they do not refer—and the data don't support it—to the moon impact being the "cause" of the phasing of their cycle[22].

Problem is that we cannot fully ascertain the synchrony: we are dependent on what the girls say, even though I registered whether girls in the period of menstruation were preparing or serving others with food, which is not allowed and thus a mark of their being in their period. They may

21. My impression, however, based on anecdotal evidence and not hard fact, was that sexual intercourse shortened or advanced their cycle and brought it closer to the dominant date pattern in the group.
22. That girls "adapted" their cycle towards the group average does not mean that irregularities in their cycles are suddenly cancelled; as expected these still occur but are recognized *via* the knot-counting system.

have given a date to fit the "group pattern" because that is expected: it is for them the peer group norm (and it signals their condition to young males). That is why in this paper the focus is primarily on the claims to synchronicity and the socio-cultural meaning of this. This cultural fact of preferred synchronicity in menstrual cycles among a close-knit group of young females strongly committed to their freedom and power to choose is significant in itself, and illustrates the uses to which sexual knowledge can be put. It also has the side-effect that Suri girls learn how to responsibly handle their sexual health and pregnancy chances, as they test practices and counting routines which will be of value to them later in married life (pregnancy planning in a polygynous household, not letting men just make them pregnant, birth spacing).

Suri menstrual synchrony is an artefact, with girls using biological cues to produce the "fact", or rather norm, of synchrony for socio-cultural reasons: signalling sexual availability, potential fertility and thereby nubility, but as seen from the woman's perspective.

Suri "female adult" status is achieved after marriage, but readiness for marriage is marked by a process of training in the facts and customs of sex and reproduction. First comes the instruction from their mothers, knowledge which is compared by the girls among each other on the basis of what each of them has heard. The life in all-female groups and the claimed patterning of the menstrual cycle are also part of this education in sexual culture. Then comes the (un)conscious process of synchronizing and experimenting, *e.g.,* with sexual relations. As time goes by, an orientation towards motherhood gets more important. Indeed, when I talked to several of the girls 7-8 years later (1999, 2000) when they had become mothers, menstrual synchrony for them was no longer an issue.

So in view of the cultural assumptions that sex is not to be avoided, that the time to enjoy it to the full is before marriage and that girls "compete" for the attention of males (which also happens in the arena of ceremonial duelling, which also works as a "relationship arena", [Abbink 1999]), it can be seen that the Suri girls take active charge of their sexual and reproductive life[23].

The Suri are unique among pre-industrial societies in that their age of marriage is fairly late: both males and females marry in their early twenties. This is also in stark contrast with most other rural Ethiopian societies or ethnic group traditions (Yetmgeta 2003: 54). Among not only the Muslim groups but also the Orthodox Christian ones, and across the ethnic spectrum, the age of marriage in rural Ethiopia is on average 15-16, and is only slightly dented by the spread of school education.

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23. Here they differ from many other pastoral peoples, and notably from the Muslim ones, in Ethiopia (*e.g.,* Afar, Somali). The government document *Pastoralist Education Policy* (MINISTRY OF EDUCATION 2009) in this respect is based on generalized and erroneous assumptions, which do not apply to the Suri.

Suri girls in particular do not appreciate early marriage, and cling to what they term their freedom and right to choose, as well as the enjoyment of their "free life" in girls' groups. As we will see below, in view of social and economic pressures due to government plans, religious reform by pious Protestant-Evangelical Christians (some 350 to 450 or 2% of Suri have converted), and persistent conflict in and outside their society, the marriage age has gone down in the past 10-15 years. For instance, male family members in recent years have pressurized girls (their sisters or nieces) into marriage to earlier get access a part of the cattle promised in bride-wealth by the groom's family. Divorce and abandonment create problems as well, and orphaned children need a new care-taker parent. So issues of mounting insecurity, economic problems and social turmoil contribute to changing marriage practices, to which girls resist, however[24]. A general tendency toward the emergence of more gender tension can thus be observed.

Socio-political Changes Impacting on Social Organization and Sexual Culture: Decline of a Cultural System?

The question has to be posed if the indigenous system of menstrual regulation and self-consciously managed sexuality or reproductive "careering" among Suri girls is durable. As a cultural scheme, we might expect it to be so, but it is not immutable. Three important, more recent developments impact on current Suri social organization and sexual culture. The first issue is that of internal tensions due to ongoing conflicts within and around Suri society (Abbink 2007), partly related to armed clashes with the state and with neighbouring groups, like Dizi, Anywa, Nyangatom, and highlanders, heightening insecurity. As W. Cutler (1980: 839) already suggested, the stress of (armed) conflict or war contributes to influencing the rhythm of the menstrual cycle. In general, in the past 15 years a deterioration of equitable gender relations—*i.e.,* a decline of the position of women *vis-à-vis* men—was observed among the Suri.

Second, recent government policy toward Suri way of life and culture aim to have them change their livelihood activities and give up agro-pastoralism. This policy also extends to the socio-medical sphere and often resembles an "offensive". It aggravates conflict and threatens Suri human security as a whole. Policy efforts are aimed at changing their, what the authorities call, "backward culture". This message is constantly communicated and produces cultural denigration and prohibitions against key rituals, body culture, a slighting of the functional parts of their traditional medicine, etc. There is no dialogue or consultation. State officials insist on the

24. My main data are based on a period (the 1990s) where the average age of Suri females at marriage was ca. 22-24 years and where giving birth out of wedlock was rare.

wholesale introduction of "modern medicine" and label many Suri customs as "harmful" and "to be eradicated". Suri are not against education and schooling but resent the categorical belittling of their culture and political tradition. This attitude of non-Suri toward Suri society and (ill-understood) customs, including gender relations, often leads to a thoroughly moralistic, paternalistic discourse, even among educated urban (Ethiopian) feminists.

The final challenge is the expansion of new religions, notably Evangelical Christianity and/or Pentecostalism, with a new moral discourse that advocates the control of sexuality and monogamous marriage, and devaluates indigenous sexual knowledge and practices (among them, sexual freedom and premarital sex, and thereby also the indigenous rhythm counting). This leads to a loss of traditional (and correct) Suri knowledge on matters of sex and procreation, including that of the menstrual cycle, the precautions to take in sexual relations (birth control), or birth-spacing[25]. This may sound paradoxical: a so-called modern religion, shaping connections with others outside the local confines of Suri society, but having the effect of inducing conservatism, confusion, and ignorance; in reality, however, it is not unexpected. The new religious discourse cannot but decontextualize local custom, values and economic practices (*e.g.,* bride wealth exchange) in favour of a "universalist" moral perspective, including a reshaping of ideas on gender relations and sex. In general, this religious reorientation leads to a weakening of the social autonomy of women, and, combined with a corresponding bias in state policy always privileging men, to a "repatriarchalization" of Suri society, where men get or claim more rights and enforce authority. The gender egalitarianism that existed—*e.g.,* the sexual "empowerment" of women—is thus undermined. While the sexual-cultural system as a whole may not just disappear, it certainly will be under pressure and undergo transformation, leading to loss of knowledge.

The claims to menstrual cycle synchrony among Suri girls are a cultural narrative to regulate sexual activity, but seem to be supported to some measure by "the facts": over time girls living together tend to come closer in their cycle onsets and do consciously "work on it". When younger girls join and live in an existing group (*e.g.,* in the monthly dances, in work teams, etc.) this effect occurs. It reflects the cultural pattern—with adaptive

25. During my field stay in 2000 a younger, converted Suri man made his wife pregnant again seven months after she had given birth. He was scolded for this by Suri male and female elders. The young man said it was none of their business, referred to his newly found Christianity and spoke with disdain about "old" Suri culture. Meanwhile the wife had to struggle with two small babies and health problems.

functionality—of "signalling" to men and to others the periods in the cycle where the women are, so to speak, sexually available or unavailable. In this way, men are indirectly informed that women decide on this.

Intense sociality and cultural preference among young women in a "natural fertility" population thus may produce non-random effects on menstrual and ovulatory concordance, although not complete synchronization. Whether olfactory/pheromonal influences are causative cannot be said on the basis on the limited evidence[26]. However, in view of a number of other studies (Graham & McGrew 1980; Stern & McClintock 1998; McClintock 1999; Preti *et al.* 2003), some impact can be confirmed. But this is always mediated by cultural preferences, as in our case above. If pheromones would be involved, they would never "act" autonomously (Mostafa *et al.* 2012: 6). While there is never a complete pattern synchrony, the synchronization is a "regulative idea" of Suri girls and features prominently in their sexual politics, apart from the physiological effects that possibly sustain it. Moreover, as we saw, the phenomenon is vulnerable to external disturbances, *e.g.,* when the health and familial stability of women is threatened by livelihood crises, ill-guided moralistic policies and growing male violence that is constituted in other domains of life.

This paper has mostly referred to a period back in time, providing a window to a cultural pattern and a social context that are undergoing rapid change. Suri life—their socio-economic activities, their settlement pattern, their cultural values and customs—is literally under threat, being devalued and downgraded by external agents, and beset by internal disarray related to resource pressure and conflict. The Suri social fabric, as Suri themselves keep emphasizing, is "losing the plot". There is rising "delinquency" (insult, assault, drunkenness, abandonment, rising number of unwed mothers), resulting in village life instability and perils to socio-cultural integrity. There is a lot of forced mobility and flight, as economic activities such as herding and even cultivation cannot be pursued in the normal sense.

Southwest Ethiopia is an arena of competition and rivalry where insecurity is high. The state is an agent of change that has not solved but stimulated local group conflicts and tends to bypass and suppress the agency of local peoples, barely recognizing their economic and cultural rights as citizens. Pastoralist peoples are seen as "nomads just moving around randomly". Suri cattle pasture and cultivation sites are taken over; transhumance patterns and local food security are affected. Their gold panning sites were largely confiscated by government-affiliated outsiders, backed by armed force.

Suri are now urged if not forced to congregate together in larger villages. This villagization is upsetting their norms and practices of household settlement and social relations, and also impacts on their relationship with neighbouring groups. The imposed reduction of cattle herding is another

26. See also J. SCHANK (2006), A. HARRIS and V. VITZTHUM (2013: 238).

socially disturbing policy—Suri being told that every "household" (with an assumed male head: also an imposed category) can only have 5 to 6 heads of cattle. Suri see this as absurd in view of the fact that cattle per head is ca. 50 and that it is the repository of wealth of both males and females, built up over many years, and the means to forge their social and affinal relations *via* structured exchange.

In addition, the repeated killings of Suri in various armed clashes in recent years contributed to disturbed family structures and survival chances as well. One telling incident occurred in February 2012, two months after I last visited the area: on a market day in the small town of Maji, frequented by Suri, a massacre occurred whereby visiting Suri were suddenly attacked by villagers with clubs and machetes. Some 43 girls, women and children died. Such a massive killing of Suri women obviously has grave consequences for social organization and girls' group life in their home villages. Even village life in more or less stable Suri settlements is rendered difficult due to the frequent forced moving and flight of people, including of young girls. For instance, the two villages referred to above—Makara and Byeeliya—are now (in mid-2014) empty: abandoned six years ago.

The crisis of Suri society and the externally induced instability due to the activities of the state, new investor schemes, continued armed clashes and criminal transgressions by neighbouring groups enhance the emerging tensions between male and female within Suri society. Economic units are vulnerable, marriages more precarious, households crippled due to partners killed or arrested, and familial and sexual mores get into in disarray. The increased alcoholism, for instance, is partly due to more and more married but abandoned women selling the local beverage *gèso* in order to compensate for lost income. But the results are that brawls have increased and child care has declined.

In sum, the menstrual synchrony claims and practices as described above form part of an actively maintained traditional system of sexuality control among the Suri people: a cultural system that includes knowledge on the menstruation cycle, pregnancy, rhythm method birth control, male sexual behaviour, post-partum abstinence, birth spacing, breast feeding, female health issues, and the transmission of that knowledge. This system gives evidence of the manipulation of biological dispositions based on intimate knowledge of female physiology and informed by culturally styled desire for sexual enjoyment. It was geared not to "enhance reproductive success"—the predictable claim of evolutionary approaches—but to temporarily avoid it: to regulate "free periods" for sex before marriage, although enhancing female reproductive chances and health in the long run. It is not a "primitive" but effective system, giving women a measure of male-independent control over their sexual activity and timing fertility. It culturally translates biological dispositions, to produce a pattern of sexual and reproductive relationships that gives women autonomy and status. Paradoxically, in the more recent discourses of modernity and of religious conversion introduced by state and churches, the system is devalued, eroded, and

replaced by one that lets women lose control. This results in a decline of knowledge, in more and earlier pregnancies, in less respect for women, and in more divorce or abandonment. Rupture rather than continuity thus marks the connection between old and new.

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ABSTRACT

Among the Suri agro-pastoralists, a relatively self-sufficient and independent people of ca. 34 thousand in the extreme southwest of Ethiopia, young adolescent girls often assert that they menstruate together and regulate their own menstrual cycle, relating it to the phases of the moon. "Menstrual synchrony" is a much debated and still unresolved phenomenon in the scientific literature. Rather than giving immediate credence to its existence, I claim that the young, unmarried Suri girls—well aware of all biological facts around procreation, the fertility cycle and pregnancy prevention—follow a cultural script of sexuality and aim to fit physiological facts into a preferred socio-cultural mould. They use the synchrony assertion to change behaviour and thereby to maintain sexual independence and choice of partners in a society that is marked by significant gender equality but also by individual competition.
After a brief presentation of key issues in the (inter-disciplinary) debate on menstrual synchrony and its possible existence and causes, I describe Suri sexual culture and menstrual customs, using field data gathered in two villages. I then tentatively assess the plausibility of the Suri girls' claims to menstrual synchrony, and elaborate an interpretation of Suri female sexual/reproductive strategies as enhancing women's agency in a society marred by growing internal instability, conflict, and an uncertain future.

RÉSUMÉ

Synchronisation prétendue des cycles menstruels des jeunes filles suri (Éthiopie méridionale). Entre culture et biologie. — Chez les agro-pasteurs suri, une ethnie relativement autonome de 34 000 personnes environ, vivant dans l'extrême sud-ouest éthiopien, les jeunes adolescentes prétendent souvent qu'elles ont leurs règles ensemble, et régulent leurs cycles selon les phases de la lune. La "synchronie menstruelle", malgré un manque de preuves, est un phénomène contesté et souvent débattu dans la littérature scientifique. Plutôt que d'accepter l'existence de ce phénomène, nous soutenons que les jeunes filles suri (célibataires), qui connaissent bien

la sexualité, la fécondation, la procréation et la prévention des grossesses, adoptent un scénario culturel visant à modifier et à intégrer ces faits physiologiques dans une forme socio-culturelle. Elles utilisent la prétendue synchronie pour changer, avec succès, les comportements sexuels, maintenir une indépendance sexuelle et choisir leurs partenaires dans une société marquée par l'égalité des sexes, mais aussi par la compétition individuelle.
Après une brève présentation du débat interdisciplinaire portant sur le phénomène de la synchronie menstruelle, son (in)existence et ses causes éventuelles, nous décrirons la culture sexuelle et les coutumes de menstruation des Suri, en utilisant des données recueillies chez des jeunes filles vivant dans deux villages différents. Nous proposons ainsi une interprétation des stratégies sexuelles et de reproduction des femmes suri comme un moyen d'accroître leur *agency* dans une société instable et au futur incertain.

Keywords/*Mots-clés :* Southwest Ethiopia, Suri people, adolescents, agro-pastoralists, biology-culture interaction, gender relations, menstrual synchrony, reproduction, sexual culture, social change/*Éthiopie méridionale, Suri, adolescents, agro-pasteurs, interaction biologie-culture, relations entre sexes, synchronisation menstruelle, reproduction, culture sexuelle, changement social.*